ABSTRACT OF THE DISCLOSURE

An error bound that indicates how well a hypothesis function approximates an unknown target function over a set of out-of-sample examples is computed from known error bounds for basis functions, as follows. An optimization problem is formed in which basis function error bounds imply constraints on feasible outputs of the target function over out-of-sample inputs. The optimization problem is solved to find an upper bound on the differences between the hypothesis function outputs and feasible target function outputs. This upper bound is a an error bound for the hypothesis function.

34